

Disaster Management Practice in Degree College Libraries of Vasai Taluka

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Abstract:

The purpose of this paper is to understand the policies and procedures that are implemented and followed to minimize losses during disaster. As disaster is not new to mankind and happens frequently, there is a need to have a disaster management plan to rescue and to minimize the loss to property and life.

The present study focuses on disaster management in College Libraries. As libraries have a huge collection, it becomes their duty to safeguard this and to achieve this there is a need to have a disaster management plan in place. In recent years, due to disasters many libraries have lost their precious collection thus there is a need to understand the strategies adopted by the libraries to overcome the effects of disasters and the policies existing to mitigate these losses.

Keywords:

Corruption, Disaster, Disaster Impact, Eliminate, Emergencies, Hazards, Insurance, Interruption, Mitigation, Paramount Importance, Phenomena, Rehabilitation, Safeguard, Strategies, Technologies.

Introduction:

Libraries are not just the stockpile of books and other materials; they are much more than that. They acquire, organize, preserve and provide information to the users. It is a community hub which also connects people to information and people to people i.e. it is a link between people and information. Thus, libraries play a vital role in the society and to its development. It is the store house of knowledge from historic period to the present period. Every library is unique i.e. by its collections, its clientele and its services. These multiple roles of the different types of libraries make them an important component in the information infrastructure of a country.

As an important information infrastructure, negligence, damage or destruction towards it would be worst as it holds years of knowledge. It is not only economical loss, but it is the loss of the country's knowledge resources. Thus, libraries must take adequate measures to save their collection and human resource from all type of disasters. Libraries should be prepared to sustain any type of disaster which can occur.

Disasters:

A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope, using its own resources. According to WHO "A disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community". Political impact result into the formation of new policies and acts at the time of disaster recovery and rehabilitation, it also disturbs the functioning of the country politically.

Origin and History of Disaster:

The term disaster owns its origin to the French word "Disaster" which refers to bad or evil star, from old Italian *disastro*, from Latin pejorative; prefix "dis- +astrum", meaning "bad star" in the (obsolete now in English) sense of "evil influence of a star or planet." A disaster can be defined as „a serious disruption in the functioning of the community or a society causing widespread material, economic, social and environmental losses which exceed the ability of the affected society to cope result from the combination of hazard, vulnerability and insufficient capacity or measures to reduce the potential changes of risk.

A disaster occurs when hazards and vulnerability meet. "The Government of India has recognized the importance of disaster management as a national priority, after the Gujarat earthquake in 2001 and National Disaster Management Act (NDMA) came into existence. On 23rd December the National Disaster Management Authority (NDMA), under the chairmanship of the Prime Minister was constituted, to spearhead and implement a holistic and integrated approach to disaster management in India. It has nine members, and it is headed by the Prime Minister. The State Disaster Management Authorities (SDMAs) is headed by the respective Chief Minister of each state, and each District Disaster Management Authorities (DDMA) helps the SDMA in disaster. The vision of NDMA is "to build a safer and disaster resilient India by a holistic, pro-active, technology driven and sustainable development strategy that involves all stakeholders and fosters a culture of prevention, preparedness and mitigation."

Definitions:

Disaster Management:

The International Federation of Red Cross and Red Crescent Societies define disaster management as "the organization and management of resources and responsibilities for dealing with all the humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters".

As per Indian Disaster Management Act, 2005 "Disaster Management" means a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary or expedient for:

1. Prevention of danger or threat of any disaster
2. Mitigation or reduction or risk of any disaster or its severity or consequences

3. Capacity building
4. Preparedness to deal with any disaster
5. Prompt response to any threatening disaster situation or disaster
6. Assessing severity or magnitude of effects of any disaster
7. Evacuation rescue and relief and
8. Rehabilitation and reconstruction.

Disaster Plan in Libraries:

A set of written procedures prepared in advance by the staff of a library to deal with an unexpected occurrence that has the potential to cause injury to personnel or damage to equipment, collections and/or facilities sufficient to warrant temporary suspension of services (Reitz, 2004).

Risk:

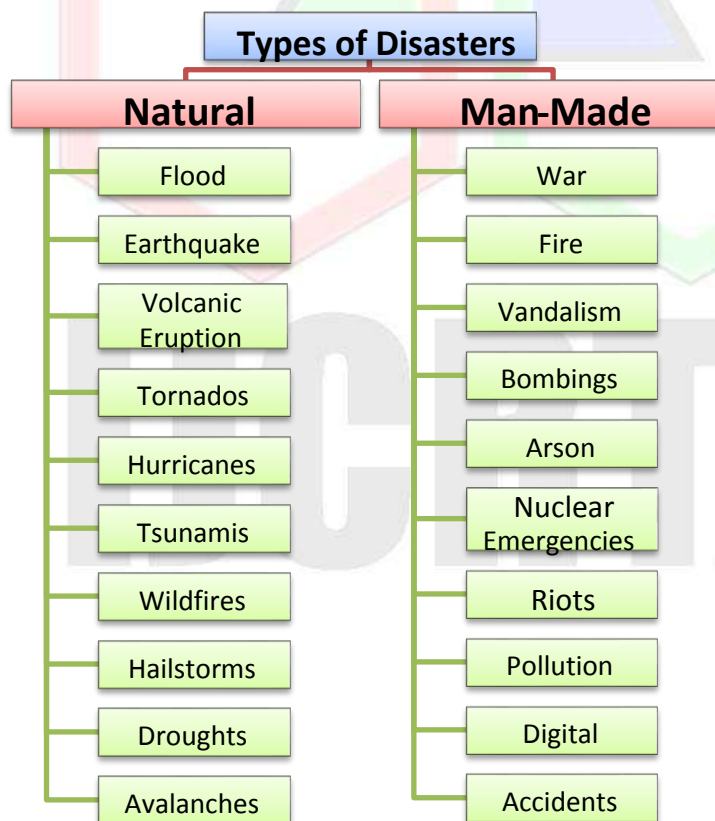
Risk is a “measure of the expected losses due to a hazard event occurring in each area over a specific time period. Risk is a function of the probability of hazardous event and the losses it would cause” (Khan & Khan, 2008)

Types of Disaster:

Disaster is mainly classified into two types i.e. natural and man-made disasters. Alegbeleye (1990) broadly classified the types of disaster according to its principal of cause as natural and man-made.

The two types of disaster are further sub categorized as follows:

Figure 1.1 Types of Disasters



Disaster Management:

Disaster is unpredictable, thus, to manage these disasters, institution must consider that disaster management is important and follow a dynamic process. Disaster Management involves a continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary to minimize the effects from disaster. It is a process to manage any type of disaster which usually deals with the strategy, organization and management process and is used to protect the assets.

Disaster Management Cycle:

Disaster management aims to reduce or avoid the loss caused by the disaster. The Disaster Management Cycle describes the process by which government, institution, organization, business and the civil society plan for and tries to reduce the impact of disasters. It helps the people to react during the disaster and take steps to recover after a disaster has occurred. Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduce vulnerability or the prevention of disasters.

Figure 1.2 Disaster Management Cycle



Prevention is defined as those activities taken to prevent a natural disaster or man-made disaster from having harmful effects on either people or economic assets. It is concerned with the adoption of measures that will prevent an event from occurring.

Preparedness is to be prepared before any disaster in order to sustain and to reduce the impacts. It is a continuous and integrated process resulting from wide range of risk reduction activities and resources. Preparedness should be done from all aspects of disaster management cycle.

Response is the set of activities implemented after the impact of a disaster in order to assess the needs, reduce the suffering, limit the spread and the consequences of the disaster, opening the way to rehabilitation.

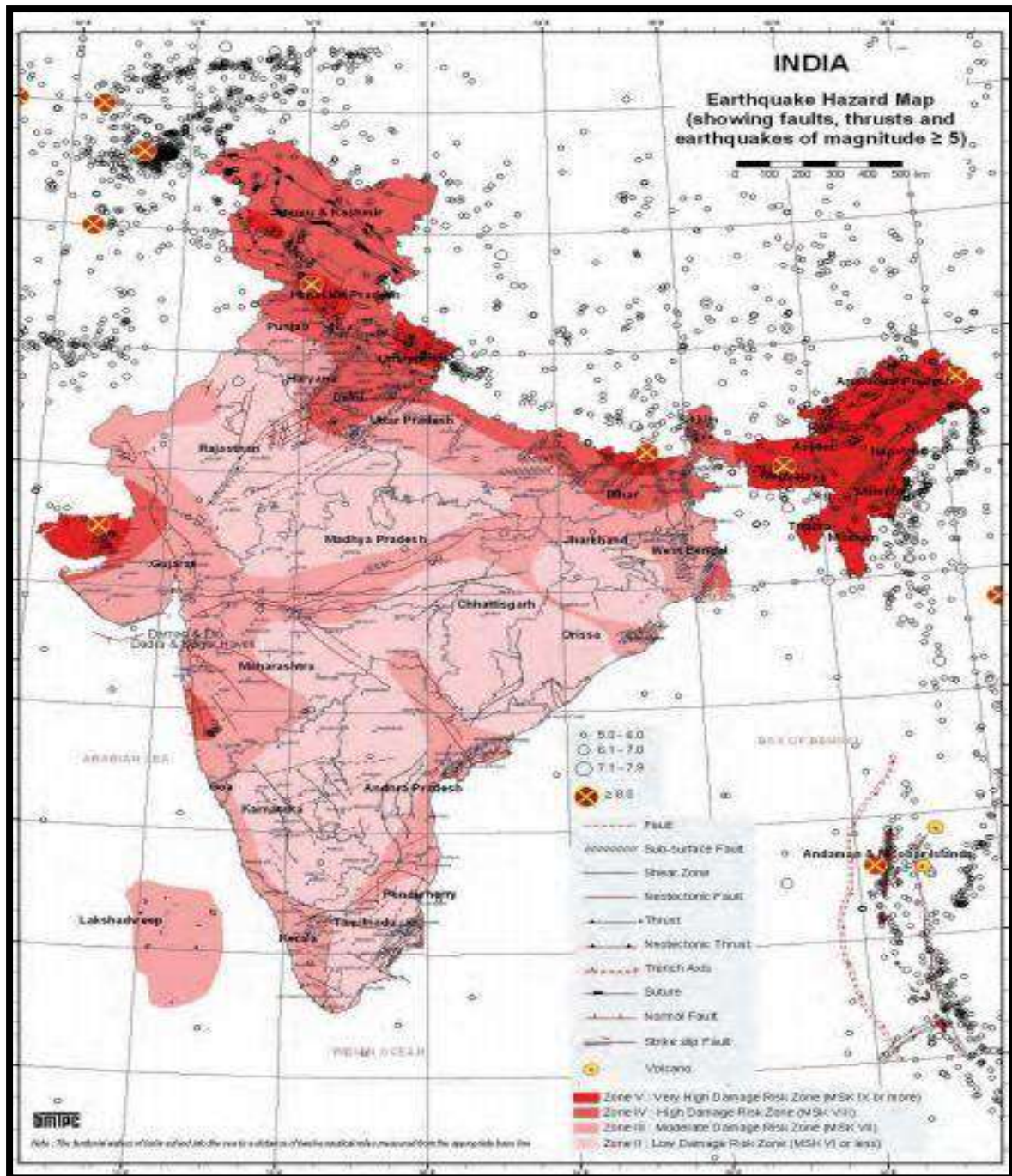
Recovery is the activity or measures taken to return the community or organization back to normal or near to normal situation. To recover from a disaster, it may take 1 month or 1 year or more than that, it mostly depends upon the destruction level and the available sources. A disaster management plan should always consider all the aspects of disaster management cycle.

Disaster in India:

Disaster-prone areas can be identified from existing databases of past disasters. Countries are aware of disaster-prone areas, either through local knowledge and experience or through formal risk assessments and historical data. The disasters can be managed by identifying and managing specific risk factors. Hotspot hazard identification is useful at the national and sub-national levels. In areas that face risks from multiple hazards, information about the hazard which poses the most significant risks and measures related to that hazard would be most effective in reducing vulnerability.

Figure 1.3 Earthquake hazard map





Source: NDMA

During the last 30 years" time span the country has been hit by 431 major disasters resulting into enormous loss to life and property. According to the Prevention Web statistics, 143039 people were killed and about 150 crores were affected by various disasters in the country during these 3 decades. The disasters caused huge loss to property and other infrastructures costing more than US \$ 4800 crore. The most severe disasters in the country and their impact in term of people affected, lives lost, and economic damage is given in the figure1.4.

**Figure 1.4 People affected, lives lost and economic damage due to Disasters in India
(1980 – 2010)**

Year	Type of Disasters	People affected	Life lost	Economic damage (USD x 1,000)
1980	Flood	30,000,023		
1982	Drought	100,000,000		
	Flood	33,500,000		
1984	Epidemic		3290	
1987	Drought	300,000,000		
1988	Epidemic		3000	
1990	Storm			2,200,000
1993	Flood	128,000,000		7,000,000
	Earthquake*		9,748	
1994	Flood		2001	
1995	Flood	32,704,000		
1996	Storm			1,500,300
1998	Storm		2871	
	Extreme Temp.		2541	
	Flood		1811	
1999	Storm		9,843	2,500,000
2000	Drought	50,000,000		
2001	Earthquake*		20,005	2,623,000
2002	Drought	300,000,000		
	Flood	42,000,000		
2004	Flood	33,000,000		2,500,000
	Earthquake*		16,389	
2005	Flood			3,330,000
	Flood			2,300,000
2006	Flood			3,390,000
2009	Flood			2,150,000

Source: UNDP Figure 1.4 shows the major disasters that have occurred in India from 1980 to 2009, along with the population that was affected and economic loss sustained.

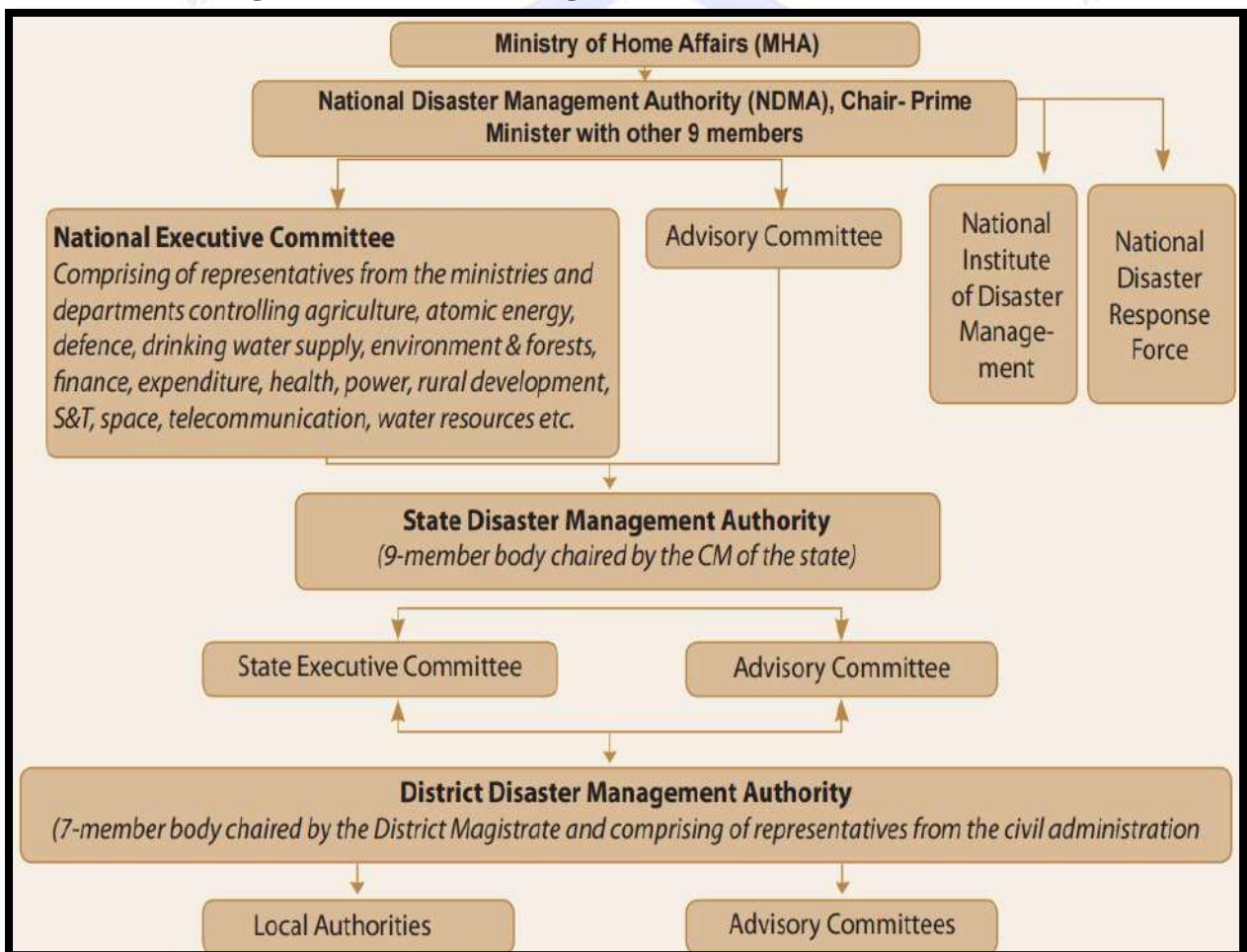
Disaster Management in India:

The government of India established the National Disaster Management Act (NDMA) in 2005, headed by the Prime Minister. It is responsible for laying down the policies, plan, and guidelines for disaster management for ensuring timely and effective response to disaster and helps the nation to manage disasters. The plan is the outcome of extensive consultation among

practitioners and policymakers at all levels and should be updated mandatorily every year or as often as required, and after every major incident.

The management of disasters in India is done by National Disaster Management Act. There are two structures of National Disaster Management Act, one is National Disaster Management Authority (NDMA) which has been established at the centre, and the other one is the State and District Disaster Management Authorities (SDMAs) & (DDMAs). The National Institute of Disaster Management (NIDM) constituted under the act is at the centre with the responsibilities to train and to promote institutions regarding disaster management. It also undertakes and provides publication of journals, research papers and books.

Figure 1.5 Disaster Management Structure in India



Need & Purpose of the study:

As disaster is not new to mankind and happens frequently, there is a need to have a disaster management plan to rescue and to minimize the loss to property and life. The present study focuses on disaster management in College Libraries.

Aims and Objectives:

Since libraries are vulnerable to disasters, the main aim of this study is to understand the policies and procedures that are implemented and followed in order to minimize losses during disasters. The objectives of the study are listed below:

1. To find out the perceptions of librarians towards disasters.
2. To examine the vulnerability of libraries in case of occurrence of disasters.
3. To identify the preparedness level of libraries towards disaster.
4. Access the level of damages that can be caused by disasters to the libraries.

Scope and Limitation:

The research study is undertaken to understand the disaster preparedness of college libraries, the study tries to understand whether the college libraries have a plan for salvage and mitigation in case of disaster.

For the purpose of this study colleges affiliated to the University of Mumbai have been selected. As the area of Vasai Taluka is prone to flooding during the rainy season, the recent incidence being in July 2018, this area was selected for the study as it would give insight to the measures planned and implemented during disasters.

Fourteen Degree Colleges affiliated to the University of Mumbai from Vasai Taluka were selected for the study, these colleges offer different types of courses.

The colleges are as follows:

1. Viva College of Arts, Commerce & Science.
2. Viva Institute of Technology.
3. Viva College of Pharmacy.
4. Viva Institute of Management and Research.
5. Our Lady of Grace Trust's St. Gonsalo Garcia College of Arts & Commerce.
6. Annasaheb Vartak College of Arts, Kedarnath Malhotra College of Commerce & E. S. Andrades College of Science.
7. Dnyandeep Mandal's St. Joseph College of Arts & Science.
8. Shurparaka Educational & Medical Trust's Arts, Commerce, B.M.S. & B.M.M.
9. Sahyadri Shikshan Seva Mandal's Arts & Commerce College.
10. Society of Our Lady of Grace Convent Pushpanjali College of Education.
11. Vidyavardhini's College of Engineering & Technology.
12. The Bassein Gujarathi Education Society's Shah Khimchand Bhai Muljibhai College of Commerce.
13. Mother Velankani Education Trust's Ashadeep Adhyapak Mahavidyalaya.
14. Padmashree Bhausahab Vartak College.

Literature Review:

Ansari (2008) stresses the importance of preparation of disaster management plan for libraries, archive and museum. He describes how disaster plans can be prepared by considering the wide range of preliminary activities. He has specified the procedures for prevention & mitigation of damages and has also provided the priority list in salvaging the resources of a library during the disaster, most importantly the framing of list of contact and assistance providers in emergencies. The author concludes that an effective disaster plan will do its best to insure the library and also stated the problems and has provided suggestions to overcome the problems.

Wong & Green (2006) stated the important issue in planning against disasters in libraries. The article presents the overview of disaster planning in libraries, its phases and the essential elements in a disaster plan. They are trying to spread awareness among the library staffs for disaster prevention and preparedness. They conclude that the disaster preparedness is an ongoing process and exercise and it is the basic work of preparation for disaster.

Ayoung, et al... (2015) conducted the study to evaluate the preparedness of Ghanaian polytechnic libraries towards disasters. They found out that the libraries were illprepared with respect to disaster and there was an absence of written security policies and disaster plans. The conclusion was that polytechnic libraries were inadequately prepared to prevent or survive any form of disaster and institutional managers appeared to be unsupportive of disaster preparedness proposals from librarians. The author has provided related suggestion.

Pathak (2019) has conducted the study for disaster and security preparedness of 14 university / institute libraries in Gandhinagar. He has considered the causes and vulnerabilities of theft and mutilation in library only. He found out the loopholes by which theft and mutilation can happen in the libraries. He concluded that there is a serious need and strategic attention toward the library collection security. He has suggested technologies and solution to safeguard the collection from theft.

Bansal (2015), in his article “Disaster management in libraries: An overview” highlights various disasters and natural calamities that can befall upon libraries and also considers disaster towards the library buildings, collections, equipment and systems. He has mentions how a plan can be prepared, and how to respond and recover from a disaster. He concluded that a disaster control plan is of paramount important for the libraries followed by proper infrastructure, emergency response mechanism, educating people and generating awareness about the disaster management. He suggested that libraries can pool their resources in event of disaster and government bodies should guide the libraries.

Jieyin, et al... (2005) has examines the regulations of the Chinese National Standard for Library Building Design for collection preservation and disaster prevention. Their finding was that the libraries had followed all the regulations of the Chinese National Standard for Library Building Design. The library buildings were constructed and equipped with necessary devices in order to sustain any disaster. The libraries have very strict disaster

Velasques, et al... (2016) in their article deals with risk management and disaster recovery in public libraries in South Australia. It is a pilot study of 4 public libraries and the focus was to determine whether the libraries have a risk management and disaster plan for major disasters or no. They found out that libraries and the librarians were found to be confused between risk management and disaster plan. The authors concluded that risk management and disaster recovery is an important part of their business and they also believe that loss of collections is perceived as an opportunity to refresh the collections.

Moustafa (2013), the article mostly deal with the man-made disasters which effect the libraries in countries of Middle East like Iraq and Egypt. She has considered four case studies for her research and had argued the importance of prevention and planning of library in event of disaster. She has highlighted the need of giving importance to man-made disaster in framing the

disaster management plans of the libraries. She concludes that the only way to be ready for threats like armed conflict is to have in place a long term preservation and disaster management plan that can be implemented quickly and efficiently and has recommended some ways to safeguard the precious collection.

Fleischer & Heppner (2009) aims to develop an effective disaster preparedness and recovery plan. They have briefly explained and divided into phases the entire requirement for disaster preparedness and recovery plan. The authors conclude that the severity of disaster often depends upon how much the libraries are prepared towards disaster. The planning process requires a commitment of time, energy, and resources which will reap invaluable rewards if and when there is a crisis.

Lyll (1996) highlights the importance of disaster plan and has explained the basic elements of preparing a plan. The author has also mentioned the reasons for failure of a disaster plan and gave suggestions to avoid that failure. He concludes that disaster planning is an essential component of management plan for libraries and archive. He recommended that a plan must be incorporated into the day to day management of an institution which should be well thought out and presented.

Research Methodology:

Research methodology is a systematic way of solving a research problem. It is a study on how research is to be conducted. It is a step-by-step procedure by which a researcher goes forward about describing his work, explaining and predicting his thoughts. The research methodology explains why a particular research study is undertaken, how to formulate a research problem, what type of data are to be collected, which technique is to be used for data collection, why a particular technique is used for data analysis. In short it means that, it is a roadmap of solving a particular research problem. Therefore, a researcher chooses that methodology which suits his research problem and is workable. The research methodology is problem specified, so the researcher must customize it to solve the research problem.

Sampling Area:

The geographical coverage of this study is Vasai Taluka. Vasai Taluka is a part of Palghar District in Maharashtra. The researcher has taken this area due to the reason that every year there are floods during the rainy season. Thus, the researchers wanted to know about the disaster management practices in the college libraries of this area.

Data Analysis:

This chapter deals with the analysis and interpretation of data which was collected through a questionnaire. A questionnaire was prepared consisting of 6 sections which have a total number of 42 questions. The questionnaire was designed to understand the librarian's perception about disaster, the measures adopted to prevent damages from occurring and the steps that are planned for managing disasters.

Disaster Awareness:

This section of the Questionnaire is designed to find out the perception of the librarians towards disaster, its management and salvage operations.

The survey begins by finding out the perceptions of the librarians regarding the probability of disasters occurring in their institutions.

Q.12 In your opinion what are the chances that following disasters may happen in your library/ institution?

Table 4.4: Opinion of Libraries on Probability of Disasters Happening in their Libraries / Institution

Types	60% and above		Between 20% - 59%		Less than 20%		Total	
	No.	%	No.	%	No.	%	No.	%
	Libraries							
Flood			4	44.44	5	55.56	9	100
Earthquake	2	22.22	2	22.22	5	55.56	9	100
Lightning/Heavy rains	3	33.33	4	44.45	2	22.22	9	100
Collapse of whole or part of building			1	11.11	8	88.89	9	100
Terrorism/Bombing/Riots					9	100	9	100
War					9	100	9	100
Fire	3	33.33			6	66.67	9	100
Industrial disaster					9	100	9	100
Digital Disaster	1	11.11	3	33.33	5	55.56	9	100
Termites/Moulds/Fungus	2	22.22	3	33.33	4	44.45	9	100

From the table 4.4 the threat of lightning/ heavy rains and fire was marked by almost 33.33% of the librarians, it is followed by earthquake and termites/Molds/fungus at 22.22% and digital disaster is only 11.11%.

In the range of 20% - 59% chances of occurring a disaster; flood and lightning/ heavy rains was marked by 44.44%, digital disaster and termites/Molds/fungus is marked at 33.33%, earthquake was marked by 22.22% of the librarians and the least was marked at collapse of whole or part of building by 11.11%.

In the range of less than 20% chances of occurring a disaster most of the librarians has marked in this range. Terrorism/Bombing/Riots, war and industrial disaster was marked by 100% of the librarians. 55.56% of the librarians marked flood, earthquake and digital disaster. 44.45% marked termites/molds/fungus and the least marked was lightning/ heavy rains by 22.22% of the librarians.

Q.13 Do you conduct any awareness programs related to disaster.

Diagram 4.4: Awareness Programs

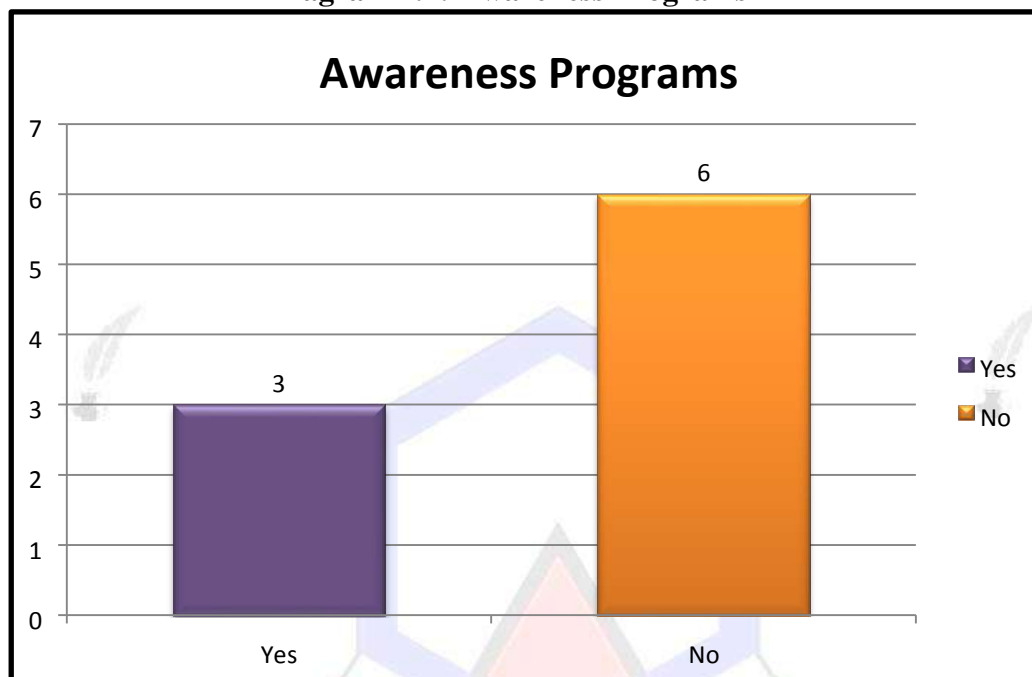


Diagram 4.4 shows that libraries conduct awareness programs related to disaster. Only 3 of the libraries conduct awareness programs.

Table 4.5: Awareness programs for

Training for	Teaching Staff	Non-teaching Staff	Students
No. of Libraries	2	3	1

Out of 3 libraries who provide training (diagram 4.4), all the libraries gave training to non-teaching staff, 2 of them gave training to teaching staff and only 1 of the libraries provide training to the students (table 4.5).

Only 2 colleges have specified the training program. The training program conducted by G.G. College is given by the college's NSS department for disaster. And the training program conducted by Viva College of Arts, Commerce and Science is given on fire safety which was conducted on 20-1-2019.

Disaster Vulnerability:

Q. Does the library have an emergency exit?

It is important to have emergency exit in case of uncertainties. Diagram 4.7 show that around 56% of the libraries don't have emergency exits which is a major issue. Only 44% of the libraries have emergency exit out of which only 50% of the exit were marked and illuminated properly. The rest 50% were not marked and illuminated (diagram 4.8)

Diagram 4.7: Emergency Exit

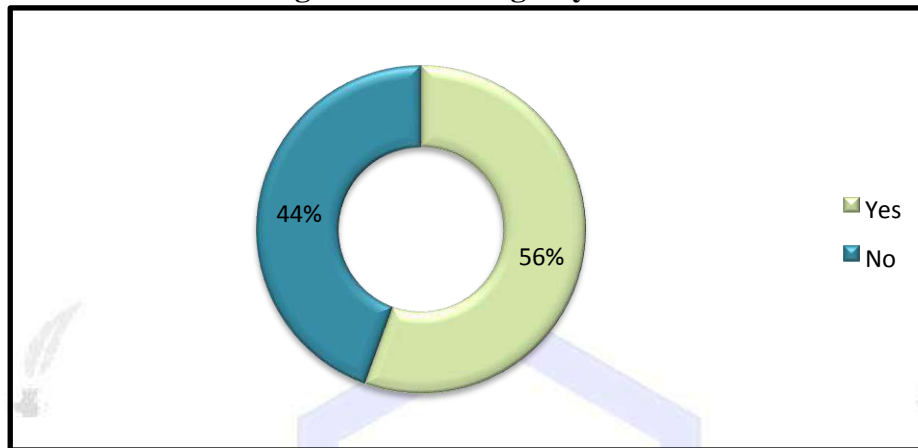


Diagram 4.8: Exits marked and illuminated

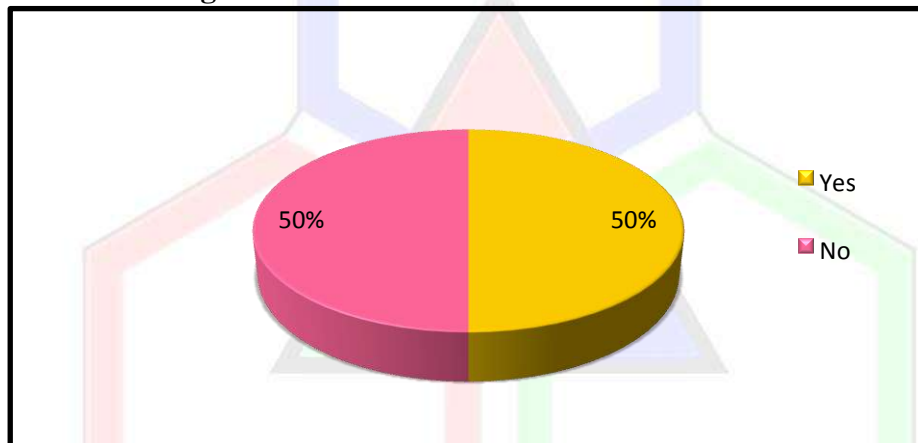
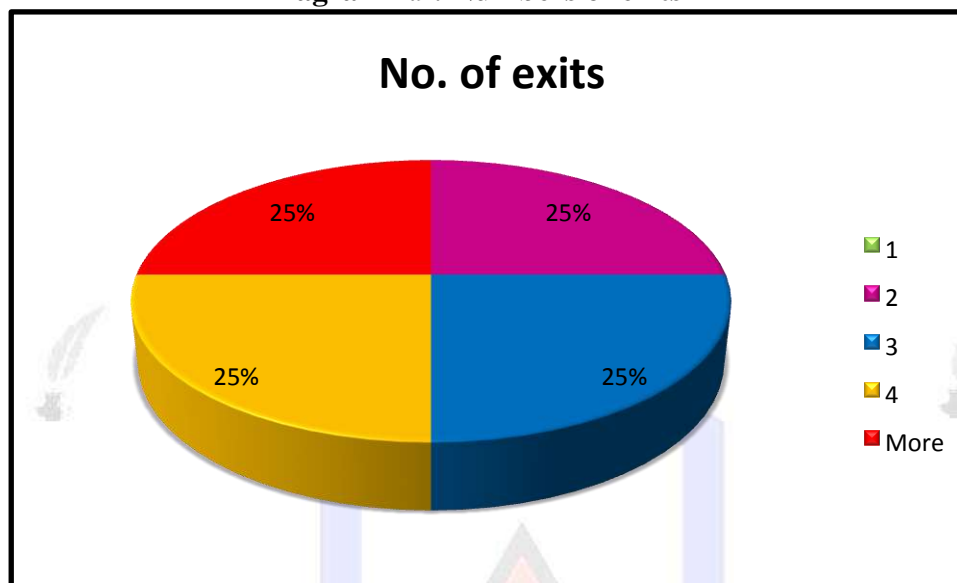


Diagram 4.9 is representing the numbers of exits. All the colleges who have emergency exits are having more than 1 emergency exit. Each library has 2 and more emergency exits respectively.

IJCRTA

Diagram 4.9: Numbers of exits



Disaster Preparedness

Q.What types of safety equipment's are available in the library/ institution?

In the table 4.7, 100% of the libraries have first aid kits and 88.89% have fire extinguisher. Followed by UPS at 77.78% to safeguard from digital disaster and CCTV / metal detector were present in 77.78% of the libraries. By placing grills on windows 66.67% libraries tried to ensure that their collection is safe and 66.67% of the libraries have made arrangements for data backup.

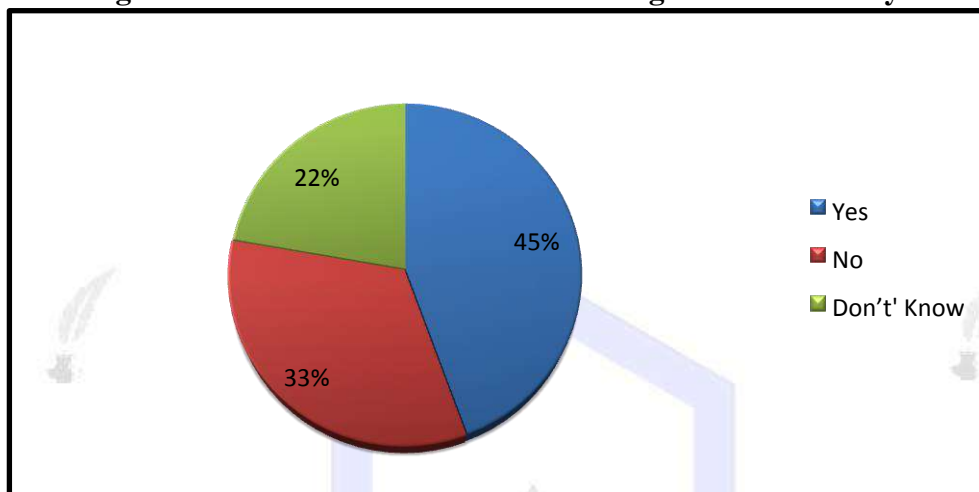
None of the libraries do safety audit and only 11.11% of the library do structural audit. Only 33.33% of the libraries are having a waterproof building, which ensures that the libraries are safe from leakages. All other safety equipment's are present in less than 44.44% of the libraries.

Table 4.7: Safety Equipment's

Safety equipment's	Libraries	
	Numbers	Percentage (%)
Fire Alarm/ Smoke Alarm	2	22.22
Fire Blankets	1	11.11
Fire Hose Reels	4	44.44
Fire Hydrant Systems	5	55.56
Fire Extinguishers	8	88.89
Water Sprinklers	1	11.11
UPS	7	77.78
First Aid Kits	9	100
Safety Audits	0	0
Structural Audits	1	11.11
Water Proofing	3	33.33
Grills on Windows	6	66.67
Disaster Kits	1	11.11
CCTV/ Metal Detector	7	77.78
Data Back-up System	6	66.67

Q.Is your library/ institution insured?

Diagram 4.12: Libraries/Institutions having Insurance Policy



Insurance is required to safeguard the interest of the institution from loss and uncertainty. It may be described as a social device to reduce or eliminate risk of loss to life and property. It provides safety and security in economic term. The librarians were asked whether they have insurance or not for the library/institution. Diagram 4.12 shows that almost 45% of the libraries have insurance, 33% of them don't have any insurance and 22% of the librarians don't know about the insurance.

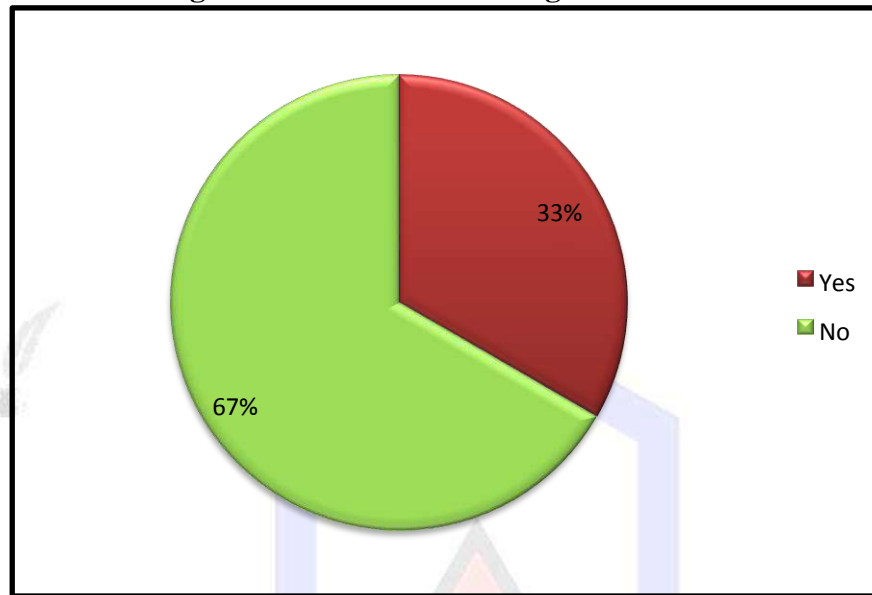
From 45% of the libraries having insurance, table 4.9 shows that 66.67% of the libraries are having insurance policy for infrastructure/building, library staff and users, 11.11% of them don't have insurance for library staff and 55.56% of the libraries don't know about the insurance policy for its collection and its users. For disaster management in library it is necessary to consider the collection, infrastructure, library staff and users in an insurance policy.

Table 4.9: Insurance Coverage

Insurance Coverage	Yes	No	Don't Know
Collection	0	0	3
Infrastructure/Building	3	0	0
Library Staff	2	1	0
Users	1	0	2
Percentage	66.67%	11.11%	55.56%

Q.30 Does the library/ institution have a disaster management plan?

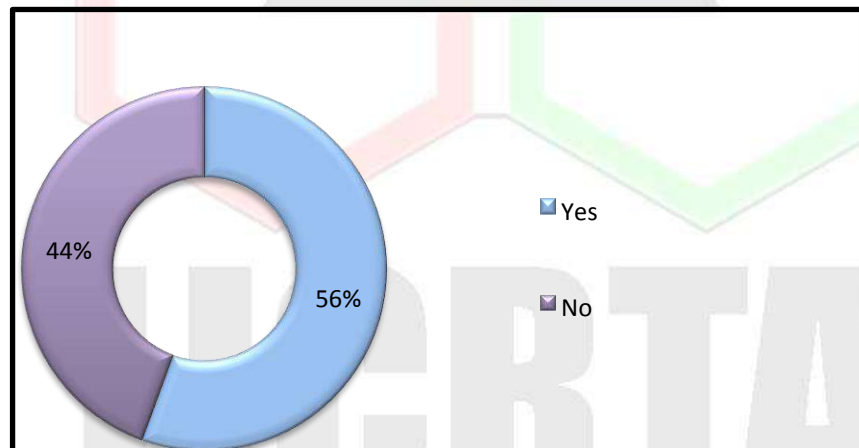
Diagram 4.13: Disaster Management Plan



It is important to have a disaster management plan to combat any disaster. Disaster management plan should be in a written form which can be easily available to be used in case of a disaster. Diagram 4.13 shows the number of libraries having a disaster management plan. It is seen that only 33% of the libraries have disaster management plan.

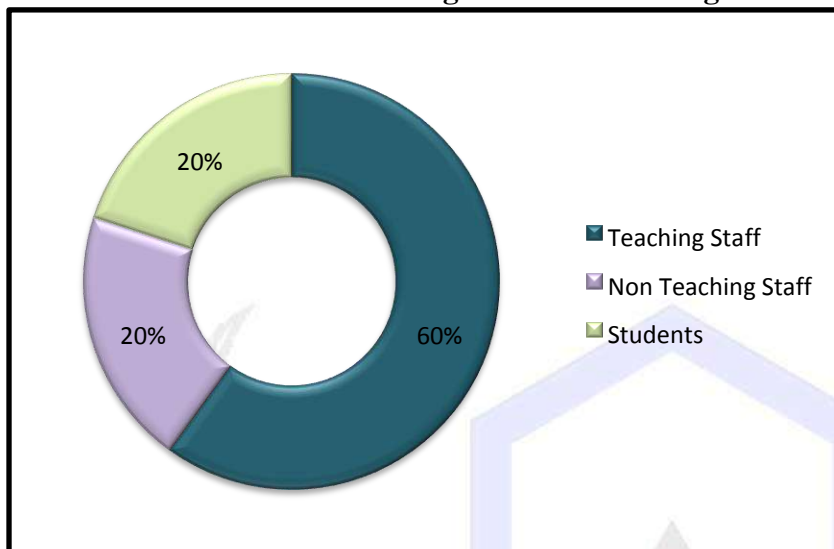
Q.31 Do you provide training to deal with disaster?

Diagram 4.14: Disaster Training



Training is needed to deal with disaster. It helps the persons to react according to the situation and it will also be helpful for other people to follow the lead of the trained persons in event of disasters. Only 56% of the libraries provide training to deal with the disaster. Out of which 60% of the libraries provide training to teaching staff, 20% to non-teaching staff and 20% to students.

Diagram 4.15: Training Provided



Q.32 Do you have a Disaster Response Team?

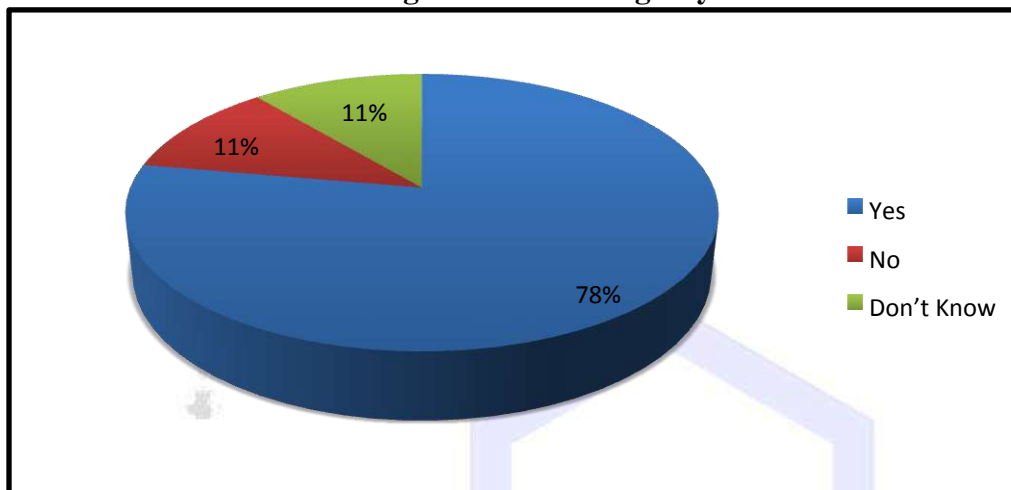
Table 4.10: Colleges with Disaster Response Team

College Code	Responses	College Code	Responses
VCET	No	MVETAA	No
GGC	No	VIT & VIMR	No
JCAC	No	VIP	No
VCACS	No	PBVC	No
SEMC	No		

Table 4.10 shows that none of the libraries are having disaster response team.

Q.33 Who is responsible for implementing the disaster management plan? Please specify
 When asked who is responsible for implementing the disaster management plan 2 of the colleges i.e. Viva Institute of Technology and Vidhyavardhini College of Engineering and Technology have specified, stated that the higher authorities are responsible. One of the college i.e. Shurparaka Educational & Medical Trust's Arts, Commerce, B.M.S.& B.M.M. have stated that management and principal is responsible for implementing the plan and one of the college Mother Velankani Education Trust's Ashadeep Adhyapak Mahavidyalaya has mention that college management committee is responsible. Q.34 Do you have any emergency contact list in case of disaster?

Diagram 4.16: Emergency Contact List



From the diagram 4.16, it is seen that only 78% of the library have emergency contact list of the person that can be contacted in case of disaster, the list was provided by the colleges. The persons in the list are fire brigade, police, ambulance, electrician, plumber, doctor, maintenance in-charge and VVMC (Vasai Virar City Municipal Corporation).

4.2.5: Section 5: Digital Preservation

Digital preservation is the active safekeeping of digitally stored information. As a part of the formalized efforts of library and archival sciences, digital preservation includes the practices required to ensure that information is safe from medium failures as well as software and hardware obsolescence.

In today's generation digital preservation is much more important as all data are stored digitally. The region of Vasai Taluka mostly experienced electricity cut, so this section was specially included in the study.

Q.35 Is your library digitized/automated?

Diagram 4.17: Digitized/Automated Libraries

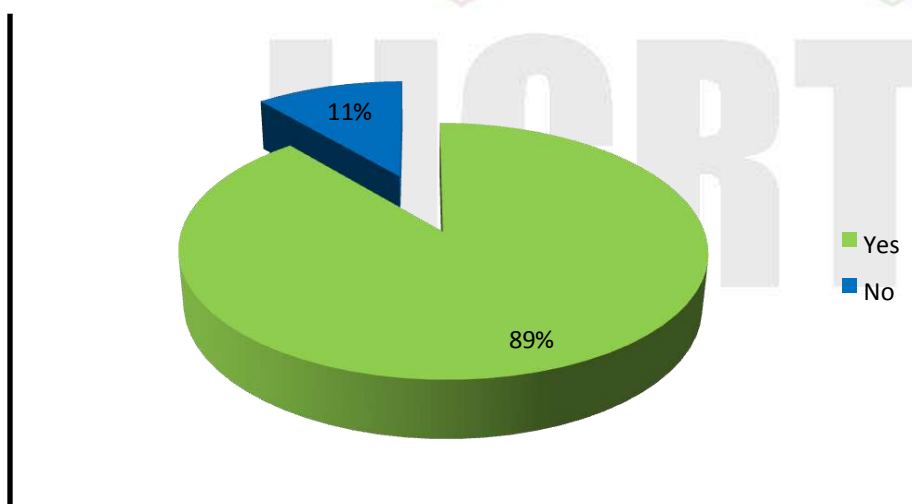


Diagram 4.17 shows the percentage of the libraries which are digitized/automated. 89% of the libraries are digitized/ automated; however all these libraries are partially digitized/ automated.

Q.36 What type of digital resources are present in your library?

In the table 4.11, the highest type of digital resources present is CD's/DVD's (66.67%); e-books, e-journals and inventory records consisted of 55.56% each and is followed by databases at 44.44%, digitized books at 22.22% and online newsletters in 11.11% libraries respectively.

Table 4.11: Types of Digital Resources

Types	No. of libraries	Percentage
CD's/DVD's	6	66.67
Databases	4	44.44
E-books	5	55.56
E-Journals	5	55.56
Inventory records	5	55.56
Digitized books	2	22.22
Online newsletters	1	11.11

Q.37 Do you keep backups?

All the libraries keep backups of their work. The devices which are used for backups are hard drives, servers, e-mail, USB device, and cloud storage.

Q.38 Does your library/institution have servers?

8 libraries have library/ institutional servers, which are used by the libraries to store their digital data.

Q.39 Do you face power cut in your library/institution?

Diagram 4.18 shows that 89% of the libraries face power cuts in their colleges while the rest 11% library did not have power cuts. To combat the power cuts in the colleges, 87% of the libraries have generators or UPS (diagram 4.19).

Diagram 4.18: Power cuts in Colleges

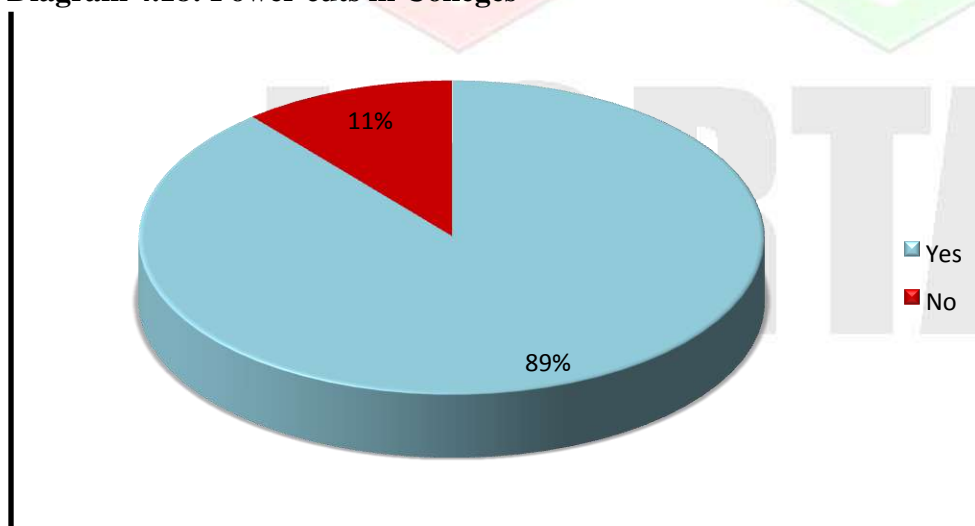
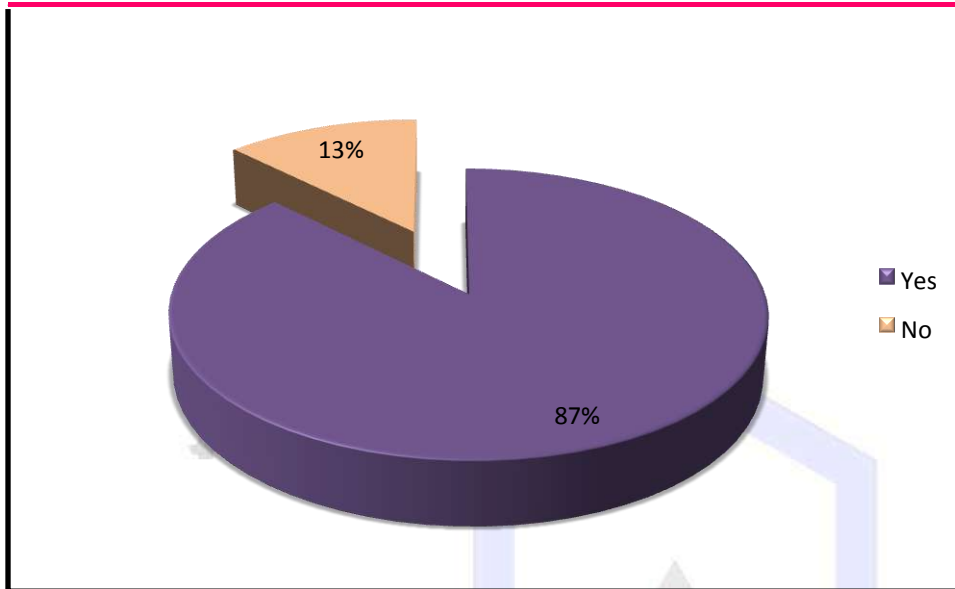


Diagram 4.19: Colleges/Libraries with Generators/UPS



4.2.6: Section 6: Disaster Experience and Damages

Q.40 Has your library suffered from disaster during the last 05 years, 10 years & 30 years?

Diagram 4.20: Disaster Experience



From the diagram 4.20, it seems that only one college has experience disaster in 5 years the rest of the colleges did not face any disasters in past 5 years, 10 years and 30 years respectively. The library that faced disaster has experienced flooding due to heavy rains.

The library that had faced flooding was further asked if they followed their disaster plan during the floods, but they did not have a disaster management plan in place during that time and hence were unable to implement disaster management.

5.2.1: Finding from the Study

Objective 1: To find out the perceptions of librarians towards disasters.

- The threat of lightning/ heavy rains and fire was marked by almost 33.33% of the librarians; it is followed by earthquake and termites/moulds/fungus at 22.22%. One (11.11%) of the library has faced digital disaster.
- In the range of 20% - 59% chances of occurring a disaster; flood and lightning/ heavy rains was marked by 44.44%; digital disaster and termites/moulds/fungus is marked at 33.33%; earthquake was marked by 22.22% of the librarians and the least was marked at collapse of whole or part of building by 11.11%.
- In the range of less than 20% chances of occurring a disaster most of the librarians has marked in this range. Terrorism/Bombing/Riots, war and industrial disaster was marked by 100% of the librarians. 55.56% of the librarians marked flood, earthquake and digital disaster. 44.45% marked termites/moulds/fungus and the least marked was lightning/ heavy rains by 22.22% of the librarians.
- Only 3 of the libraries/colleges conduct awareness programs related to disaster management. 3 of the libraries gave training to non-teaching staff, 2 of them gave training to teaching staff and only 1 of the libraries provides training to the students. Awareness of disaster is a must, thus librarians should conduct more awareness programs.

Objective 2: To examine the vulnerability of libraries in case of occurrence of disaster.

- All the libraries are located above ground floor except one library which is on the ground floor; hence this library is vulnerable to floods.
- Two of the libraries are near to canteen/laboratory, thus need to be prepared for any uncertainties like fire.
- Most of the libraries don't have separated areas for reading, administrative, collection and stacking, which make the collection more vulnerable.
- 67% of the libraries don't have storerooms for the library materials.
- 44% of the libraries don't have emergency exits which may lead to stampede in case of any disaster. 56% of the libraries have emergency exit but out of that only 50% of the exits were marked and illuminated.
- All the libraries store their collection at a safe distance from plumbing, electrical and mechanical installation - water pipes, air conditioning, kitchens and laboratories.
- Only 11% of the libraries having termite, mound/fungus problem, do pest control to prevent it.
- 56% of the colleges buildings are earthquake and fire proof, 11% of the colleges building are not earthquake and fire proof and 33% of them don't know about earthquake resistance and fire proofing of the college building.
- All the library agreed to have floor capacity to house its entire collections and a load bearing structure.
- None of the libraries are used for any other purpose like seminars, conferences.

Objective 3: To identify the preparedness level of libraries towards disaster.

- 50% of the colleges have safety equipment's like fire hydrants, fire extinguishers, UPS, first aid kits, grills on windows, CCTV/metal detector and data back-up system.
- Just 1 of the libraries do structural audit, 1 library have disaster kit, 1 library have water sprinklers, and 1 library have fire blankets.
- From 19 stated safety measures, 3 of the safety measures (i.e. Checking & maintenance of fire extinguishers, IT backup & security procedures and turning off the electronic devices like computer, photocopiers, etc. at night) are done by 8 of the libraries. 2 of the safety measures (i.e. Checking & maintenance of electrical equipment and checking if

CCTV is functional) are done by 7 of the libraries. 1 of the safety measures (i.e. Storage area kept clean) are done by 6 of the libraries. 5 of the safety measures (i.e. Checking of drainage system, proper building maintenance, review of security measures, maintenance of up-to-date lists of specialized suppliers/services and termite/mould/fungus checking & control) are done by 4 of the libraries. 2 of the safety measures (i.e. Day-to-day hazard & safety checks and updating & making floor plan available) are done by 3 of the libraries. 4 of the safety measures (i.e. Checking & maintenance of alarm systems & fire detectors, review of insurance cover and display of instructions in case of emergency) are done by 2 of the libraries. And 2 of the safety measures (i.e. Conducting structural audits and provision of emergency response equipment & materials) are done by 1 of the libraries.

- 45% of the libraries/institutions are having insurance out of which 3 of the libraries are having insurance for infrastructure/building, 2 for library staff and 1 for users. None of the libraries have insurance for its collection.
- 67% of the libraries/institutions don't has disaster management plan. □ Only 44% of the libraries provide training to deal with disaster.
- None of the colleges have disaster response team.
- 78% of the libraries have emergency contact list.
- 89% of the libraries are partially digitized/ automated.
- All the libraries keep backup.
- 8 of the colleges have library/ institutional servers which are used to store digital data.
- 89% of the libraries face power cuts in their colleges out of which 87% of the libraries use UPS or generators for power cuts.

Objective 4: Access the level of damages that can be caused by disasters to the libraries.

- Only one library has faced floods in last 5 years but has not used its disaster management plan as it did not have a plan in place for disaster management.
- No damage was caused due to the library is at the 1st floor. The water level of flood was 1.5 foot in the college premises.

Suggestions

- Librarians should need to change their attitude toward disaster as it can happen anytime, and they must be prepared for it.
- Libraries should apply preventive measures to limit the impact of disaster.
- A well-designed plan should be present and should be in a printed form on a shelf.
- They should not just frame a disaster preparedness plan but also constitute a disaster response team.
- Regular mock drill should be conducted.
- Staff training and disaster awareness should be done.
- Libraries should use or install safety devices like smoke detector, fire alarms, fireproofing and so on.

Conclusion:

Disasters are not predictable and can cause major disruption in the libraries, thus, to combat it disaster management should be done. The disaster management scene in libraries should be changed and should consider the disaster management as an important activity. By personally visiting the librarian it was observed that they were unaware about disaster

management in their colleges and were accepting the fact of implementation of disaster management.

All the colleges must have a disaster management plan and an emergency contact list. Training must be provided, and awareness should be created. Librarians should also include collections in its insurance policy. Overall observation is that most of the college libraries under the study are found to be very ill prepared to confront any disaster. But some of the libraries have taken steps for disaster control like fire safety - the colleges have fire extinguishers, fire hose reels and fire hydrant system; for power cuts they have UPS or generators; for backups they use college servers and/or external storage devices and cloud storage. Further studies are needed to identify factors or the reasons for poor disaster management in the degree college libraries in Vasai Taluka.

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